

NOTES ON *VISCAINOPELMATUS DAVEWERNERI*
(ORTHOPTERA: GRYLLACRIDIDAE; STENOPELMATINAE)
FROM THE VISCAINO DESERT, BAJA CALIFORNIA
SUR, MEXICO

Ernest R. Tinkham,¹ Clark R. Mahrtdt,² and Benjamin H. Banta³

ABSTRACT.— A male nymph in stadium 3 of *Viscainopelmatus davewerneri* Tinkham is reported and illustrated. The specimen was taken near Laguna Scammon, Baja California Sur, Mexico.

Tinkham (1970) described *Viscainopelmatus davewerneri* on the basis of a single specimen of undetermined sex (lacking an abdomen) from the coastal dunes at Laguna Manuela, approximately 25 km NE of Guerrero Negro, Baja California Norte, Mexico. The holotype was found while excavating a rodent burrow on 5 July 1965. We report a second specimen obtained from a rodent burrow by Banta on 30 December 1971. The specimen, deposited at California Academy of Sciences (CAS), was taken on the southwest side of Laguna Scammon, approximately 4 km east of the lagoon entrance, Baja California Sur, Mexico. The site is located at 114° 20' W long., 27° 45' N lat, near sea level. The dominant vegetation in this area of predominantly coastal sand dunes includes *Abronia maritima*, *Lycium* sp., *Seauvium verrucosum*.

Despite numerous visits in this area by scientists of diverse disciplines, only two specimens have been obtained. Tinkham and Mahrtdt visited the area on two separate occasions (June 1968 and January 1971, respectively) but failed to obtain additional stenopelmatids.

The second specimen, a male, is apparently in the third stadium of nymphal development, and is significantly smaller than the type (Table 1). Size variation cannot be attributed to sexual

TABLE 1. Morphometric data (in millimeters) of *Viscainopelmatus davewerneri*.

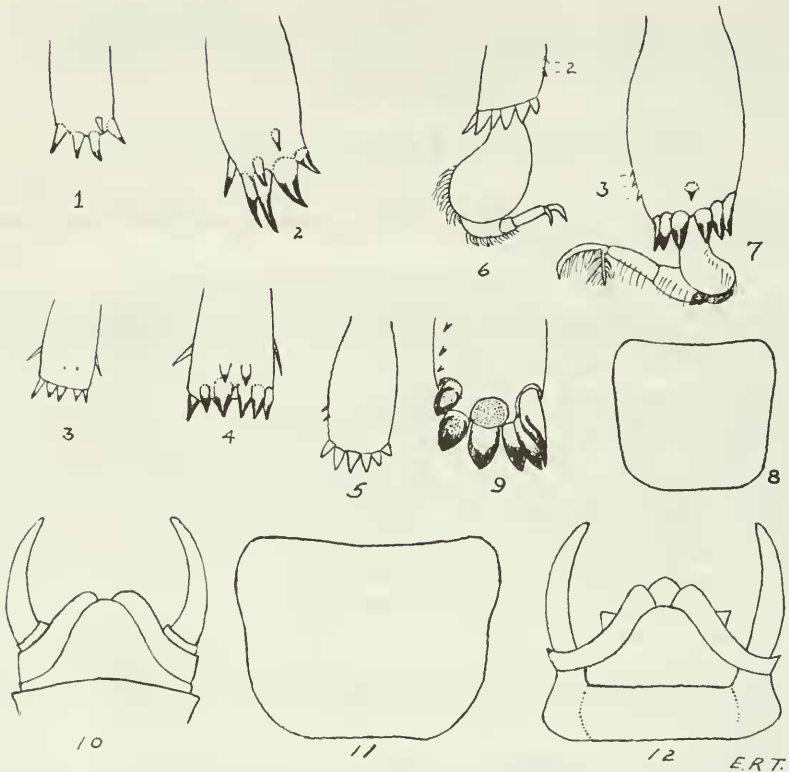
Source	Body Length	Head + Thorax	Pronotum	Caudal Femur	Caudal Tibia
Type (Tinkham, 1970)	ca. 30-35 mm	11.3	7.2 x 8.8	10.0 x 4.1	10.8 x 3.5
CAS	26.8	9.5	4.2 x 5.4	6.7 x 2.4	7.2 x 2.0

dimorphism, because male and female stenopelmatids are usually consistent in their morphological features (Tinkham, 1970). The main difference between the two specimens, other than size, is that in the nymph the dorsal outline of the pronotum is rather quadrate

¹81-441 Date Palm, Indio, California 92201.

²San Diego Natural History Museum, P.O. Box 1390, San Diego, California 92112.

³Department of Biology, United States International University, San Diego, California 94131.



Figs. 1-12. *Viscainopelmatus davewerneri*: comparison of the holotype to the male stadium 3 nymph taken near Scammon Lagoon. 1, Apical chaetotaxy of right foretibia, ventral aspect, nymph; 2, same for holotype; 3, ventral aspect of right mesotibia of nymph; 4, same for holotype; 5, apical chaetotaxy of metatibia of nymph, dorsal aspect; 6, left metathoracic tarsus, showing plantar surface from ventromesal aspect, nymph; 7, same from right tibia of holotype; 8, outline of pronotum of nymph from dorsal aspect; 9, apical chaetotaxy of left metathoracic tibia of holotype, dorsal aspect; 10, apical terminalia of nymph, dorsal aspect; 11, outline of pronotum of holotype; 12, same, ventral aspect. All drawn with the aid of a stereoscopic microscope at 15 X magnification.

(Fig. 8), whereas in the type the pronotum is ampliate forward with all angles well rounded (Fig. 9). The supra-anal and subgenital plates of the nymph are roundly triangular and rather similar (Figs. 10, 11).

Leg Spination: Figures 1 and 2 show that the foretibiae, exclusive of size, are similar. Figures 3 and 4 depict identical chaetotaxy in the calcars, but the two dorsal subapical teeth are the merest black dots in the nymph. The dorsal subapical teeth are of important taxonomic value in *Stenopelmata*idae. Figures 5, 6, and 7 show relative sizes of the caudal tibia and tarsus and reveal that the peculiar feature of having a laterally flattened and twisted caudal tarsus, characteristic of *Viscainopelmatus*, is evident in the third

stadium nymph. The nymph differs from the type in possessing only two minute, subapical, vestigial, external dorsal teeth instead of three. In Tinkham's (1970:174) key the sixth line should be amended to read, "only 2 or 3 very small, vestigial, external, dorsal, subapical teeth."

The coloration of the head, thorax, and abdomen in alcohol is brown pink to tan, 91-L in Maerz and Paul (1950). The abdomen is unicolor without alternating black and white bands.

Viscainopelmatus daveverneri, previously known only from the type locality, occupies a coastal sand dune habitat. Our specimen

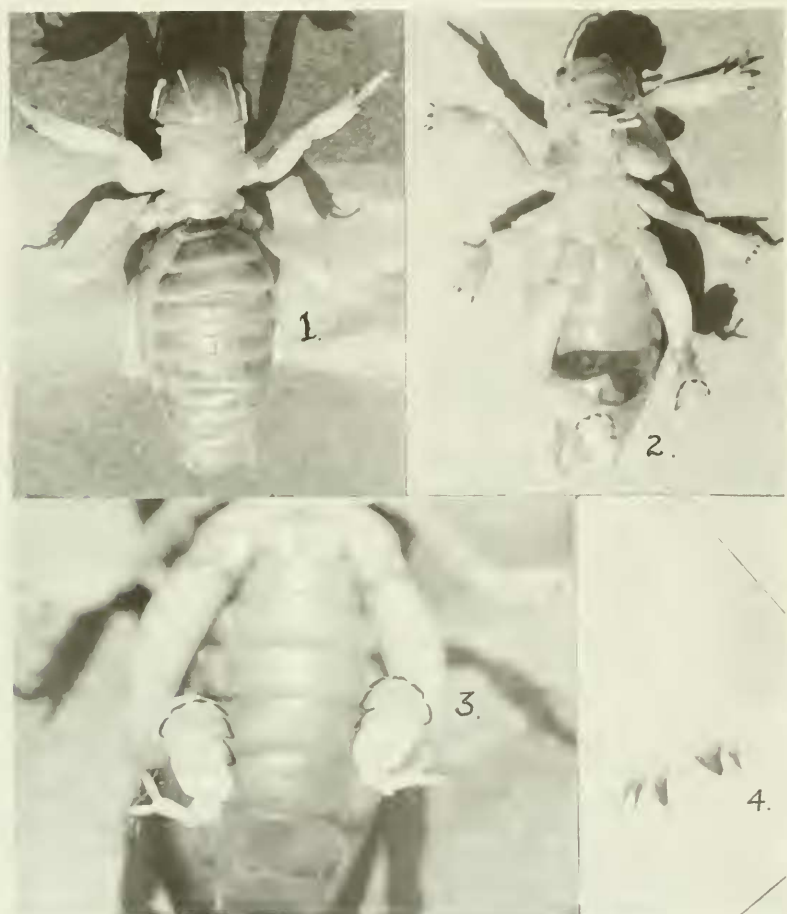


Fig. 13. *Viscainopelmatus daveverneri* male nymph in stadium 3: 1, dorsal aspect; 2, ventral aspect; 3, ventral aspect showing black-edged spathulate calcars of metathoracic tibiae and twisted tarsi; 4, ventral aspect of protibial calcars.

was taken in ecological conditions like those of the type; its occurrence 60 km southwest on the south side of Scammon Lagoon further indicates a distribution confined to coastal sand dunes of the Viscaïno Desert. Indeed, the salient features show an adaptation to such an arenicolous environment. However, there is still a need for more intensive sampling in the Viscaïno Desert to discern the distributional parameters and extent of variation in this species.

ACKNOWLEDGMENTS: We are grateful to Dr. Theodore Cohn for suggestions and criticisms of the manuscript, and to Mr. Randall Nieman for photographs of figures 1 - 4.

LITERATURE CITED

- MAERZ, A. J., AND M. R. PAUL. 1950. A dictionary of color. McGraw-Hill, New York. 208 p.
- TINKHAM, E. R. 1970. Studies in Nearctic Desert sand dune Orthoptera. Part 12. A remarkable new genus and species of stenopelmatine crickets from the Viscaïno Desert, Baja California, Mexico, with key. *Great Basin Nat.* 30:173-179.